DISCLOSURE OF INVENTION

The purpose of the present invention is to obtain a two-arm belt tensioner of the type briefly described above, which is particularly simple and compact, easy to install and to handle prior to installation on the engine, and convenient to install on the engine itself.

The above purpose is achieved by a two-arm belt tensioner for a belt drive, comprising: a fixed portion, designed to be fixed to a supporting structure; a first arm and a second arm, carried by said fixed portion and hinged thereto about a common axis; a first pulley and a second pulley, mounted idle on respective ends of said arms and designed to co-operate with respective branches of a belt of said drive; and elastic means, which force said arms towards one another to maintain said pulleys in contact with said respective branches of the belt, said belt tensioner being characterized in that said arms comprise first arrest elements, which are designed to interact with said fixed portion to define respective first positions of arrest of said arms under the action of said elastic means and respective second arrest elements, which are designed to interact with said fixed portion to define respective second positions of end-of-travel of said arms under the action of the pull of said belt.

BRIEF DESCRIPTION OF THE DRAWINGS

For a better understanding of the present

CLAIMS

1. A two-arm belt tensioner for a belt drive (1), comprising: a fixed portion (21), designed to be fixed to a supporting structure (22); a first arm (23) and a second arm (24), carried by said fixed portion (21) and hinged thereto about a common axis (A); a first pulley (25) and a second pulley (26), mounted idle on respective ends (60, 61) of said arms (23, 24) and designed to co-operate with respective branches (15a, 15b) of a belt (15) of said drive (1); and elastic means (27), which force said arms (23, 24) towards one another to maintain said pulleys (25, 26) in contact with said respective branches (15a, 15b) of the belt (15), said belt tensioner being characterized in that said arms (23, 24) comprise respective first arrest elements (37, 47), which are designed to interact with said fixed portion (21) to define respective first positions of arrest of said arms (23, 24) under the action of said elastic means (27), and respective second arrest elements (38, 39; 48, 49), which are designed to interact with said fixed portion (21) to define respective second positions of end-of-travel of said arms (23, 24) under the action of the pull of said belt (15).

2. The belt tensioner according to Claim 1, characterized in that said fixed portion (21) comprises a base plate (30), a pin (31) fixed to said plate and

defining said common axis (A) of rotation of the two arms (23, 24), and an appendage (32) fixed to said base plate (30) and defining an element of contrast for said first and second arrest elements (38, 39; 48, 49) of said arms.

3. The belt tensioner according to Claim 2, characterized in that said at least one of said first and second arrest elements (38, 39; 48, 49) of said arms (23, 24) comprises a radial projection (47, 38, 48), which extends from the respective arm (23, 24) and is designed to interact with said appendage (32) of said fixed portion (21).

4. The belt tensioner according to Claim 3, characterized in that at least one of said arms (23, 24) comprises a hub (34), which houses at least partially said base plate (30) and is provided with an opening (36), through which there comes out said appendage (32), at least one of said arrest elements (37) being defined by an end contrast element delimiting said opening (36).

5. The belt tensioner according to any one of the preceding claims, characterized in that said first and second arrest elements (38, 39; 48, 49) are provided with respective buffers (39, 49) made of elastic material for absorbing the impact with said fixed portion (21).

6. The belt tensioner according to any one of the preceding claims, characterized in that said elastic

means comprise a spiral spring (27) and in that one of said arms (24) comprises a cup-shaped hub (45), which houses said spring (27), said spring (27) being constrained, with its own outer end (40), to said hub (45) and, with its own inner end (44), to the other arm (23).

7. A belt drive (1) for connecting a reversible electric machine (4) to an engine shaft (6) of an internal-combustion engine (2), said electric machine (4) being operable as an electric machine for starting said internal-combustion engine (2) or as generator, said drive (1) comprising: at least one first pulley (7) fitted on the engine shaft (6) of said internal-combustion engine (2); a second pulley (8) fitted on a shaft (9) of said electric machine (4); and a belt (15) wound around said pulleys (7, 8), said belt (15) comprising: a first branch (15a) and a second branch (15b) set respectively between said first pulley (7) and said second pulley (8) and between said second pulley (8) and said first pulley (7) in the direction of motion of the belt (15) itself; and a two-arm belt tensioner (20), which comprises: a fixed portion (21), designed to be fixed to a supporting structure (22); a first arm (23) and a second arm (24), carried by said fixed portion (21) and hinged thereto about a common axis (A); a first pulley (25) and a second pulley (26), mounted idle on respective ends (60, 61) of said arms (23, 24)

and designed to co-operate respectively with said first branch (15a) and with said second branch (15b) of said belt (15); and elastic means (27), which force said arms (23, 24) towards one another to maintain said pulleys (25, 26) in contact with said respective branches (15a, 15b) of the belt (15); said belt drive being characterized in that said arms (23, 24) comprise: respective first arrest elements (37, 47), which are designed to interact with said fixed portion (21) to define respective first positions of arrest of said arms (23, 24) under the action of said elastic means (27); and respective second arrest elements (38, 39; 48, 49), which are designed to interact with said fixed portion (21) to define respective second positions of end-of-travel of said arms (23, 24) under the action of the pull of said belt (15).

8. A belt tensioner according to Claim 7, characterized in that said elastic means (27) have a rigidity calculated so as to bring about a rotation of each arm (23, 24) of the tensioner (20) up to the respective second position of arrest in the presence of a maximum value of tension of the respective branch of the belt.